

WHAT IS CLAIMED IS:

1. An optical disk including data segments, for recording data, provided in each sector in a recording track, wherein

at least some of the data segments each include:

a clock mark field for recording a clock mark from which a clock signal is obtained; and

a synchronization field for recording a synchronization pattern with which displacement of the data is corrected.

2. The optical disk as set forth in claim 1, wherein the at least some of the data segments including a synchronization field are provided at regular intervals in each sector.

3. The optical disk as set forth in claim 1, wherein the synchronization field has a fixed position in each of the data segments.

4. The optical disk as set forth in claim 1, wherein one of the data segments, located at a head of each sector, records a header pattern for matching the clock signal and the data in phase.

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a first data segment immediately subsequent to the address segment includes a field for recording a phase-introducing header pattern for use in data reproduction,

and

the fields for recording the synchronization pattern are included at regular intervals in a second data segment immediately subsequent to the first data segment and data segments subsequent to the second data segment.

8. An optical reproduction device for reproducing data recorded in data segments provided in each sector in a recording track of an optical disk,

said optical reproduction device comprising:

a clock generation circuit for generating a clock signal from a clock mark recorded in a clock mark field provided in the data segments; and

a data rearrangement circuit for detecting a synchronization pattern recorded in a synchronization field provided in at least some of the data segments to correct displacement of the data according to the detected synchronization pattern.

9. The optical reproduction device as set forth in claim 8, wherein

the data rearrangement circuit detects the synchronization pattern in each sector of the optical disk at regular intervals.

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10. The optical reproduction device as set forth in claim 8, wherein

the data rearrangement circuit includes a window circuit for detecting the synchronization pattern only in proximity to the synchronization field.

11. The optical reproduction device as set forth in claim 8, further comprising

a phase adjusting circuit for matching the data and the clock signal in phase using a header pattern recorded in one of the data segments located at a head of each sector of the optical disk.

12. An optical reproduction device for reproducing data from an optical disk with a recording track constituted by sectors arranged in a concentric or spiral form, in which data is rewritable sector by sector, wherein

each of the sectors is divided into segments, each of the segment includes data fields for recording data and a clock field having a different light reflectance from that of the data fields, and the data fields record synchronization patterns,

said optical reproduction device comprising:

clock generation means for detecting a laser

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adding a synchronization pattern for correcting displacement of the data to data recorded in at least some of the data segments.

15. The optical recording device as set forth in claim 14, wherein

the synchronization pattern addition circuit adds the synchronization pattern to the data recorded in the data segments provided at regular intervals in each sector of the optical disk.

16. The optical recording device as set forth in claim 14, wherein

the synchronization pattern addition circuit adds the synchronization pattern so that the synchronization pattern is recorded at a fixed position in each data segment.

17. An optical recording device for recording data on an optical disk with a recording track constituted by sectors arranged in a concentric or spiral form, in which data is rewritable sector by sector, wherein

each of the sectors is divided into segments, and each of the segment includes a data field for recording data and a clock field having a different light

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recording means for recording synchronization patterns, together with recording data, in each data field using the clock at a predetermined cycle.

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